

PROPOSED EXPANDED LIST OF AB 32 EARLY ACTIONS

October 25, 2007

Elements for the Successful Implementation of AB 32



California Climate Impacts (over the past 100 years)



**1.3 °F higher
temperatures**

~7 inch sea level rise

**12% decrease in fraction
of runoff between
April and July**

**Snowmelt and spring
blooms advanced 2
days/decade since 1955**

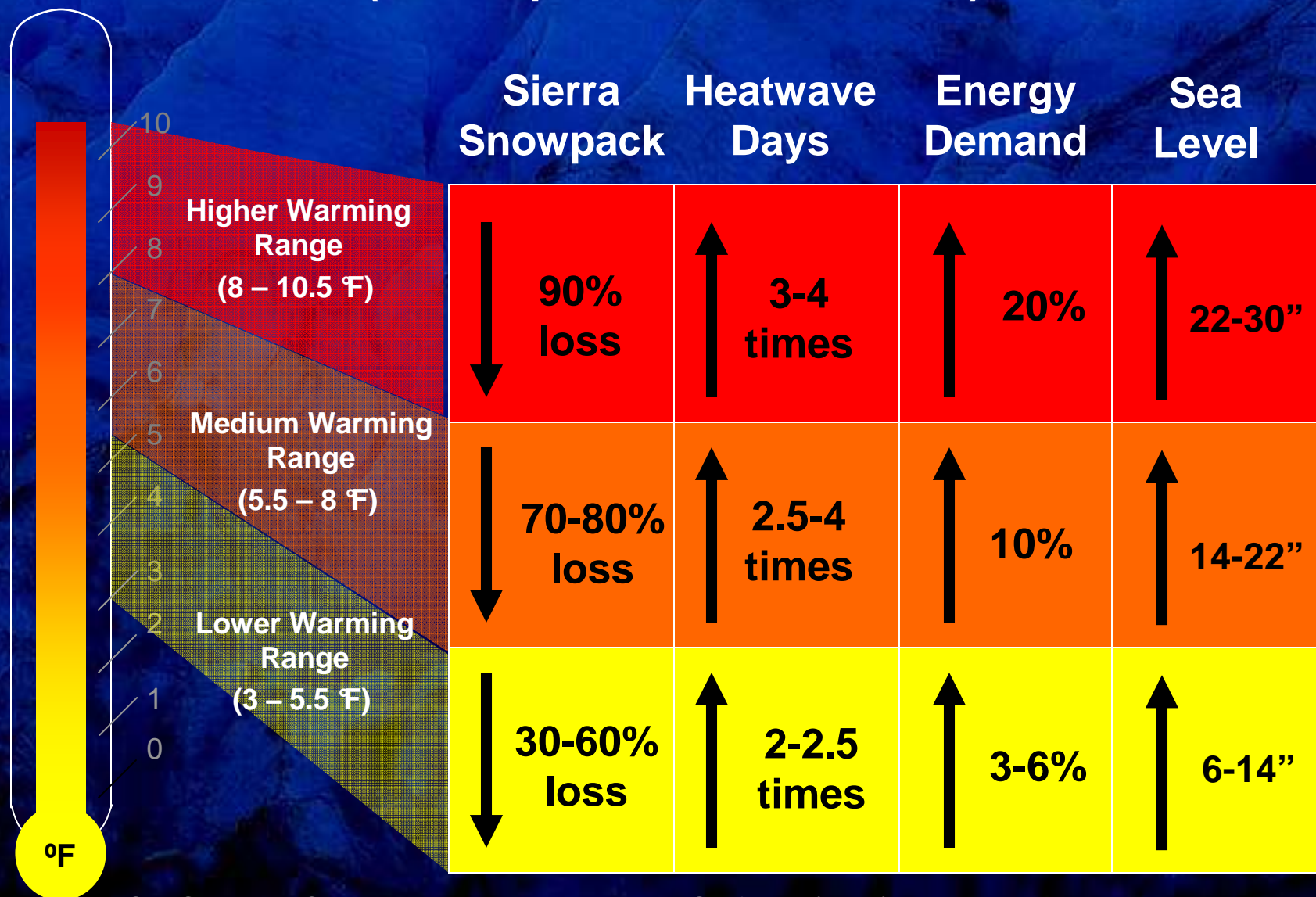
**4-fold increase in
wildfire frequency
(over 34 years)**

Cal/EPA-OEHHA, "Environmental Protection Indicators for California" (2002),
www.oehha.ca.gov/multimedia/epic/Epicreport.html

Westerling et al., "Warming and Earlier Spring Increase Western U.S. Forest Wildfire Activity", *Science* (2006) 3

Projected Climate Impacts on California, 2070-2099

(as compared with 1961-1990)



Definitions

- **AB 32 directs ARB to develop a list of early actions to reduce GHG emissions**
- **Discrete Early Action**
 - **Meets the AB 32 legal definition as identified by the Health and Safety Code Section 38560.5**
 - **Regulations enforceable by January 1, 2010**
 - **Must be under the jurisdiction of the ARB**
- **Early Action**
 - **Underway or to be developed by ARB in the 2007 – 2012 timeframe.**
 - **May be regulatory or non-regulatory in nature**

Background

- **Board approved 37 GHG reduction strategies recommended by staff in June 2007**
 - 3 discrete early actions
 - 24 other early actions
 - 10 pre-existing diesel control measures
- **Board directed ARB staff to further evaluate recommendations from EJAC, CAPCOA, and SCAQMD**
 - Staff to report back to Board within six months
 - Chairman Nichols directed staff to accelerate this review

2007 Early Actions Milestones

Jan 22	1 st public workshop
March 5-7	International symposium
April 20	1 st ARB staff draft report
April 23	2 nd public workshop
June 21	1 st Board hearing
Sept 7	2 nd ARB staff draft report
Sept 17	3 rd public workshop
Oct 5	Final ARB staff report*
Oct 25	2 nd Board hearing

*http://www.arb.ca.gov/cc/ccea/meetings/ea_final_report.pdf

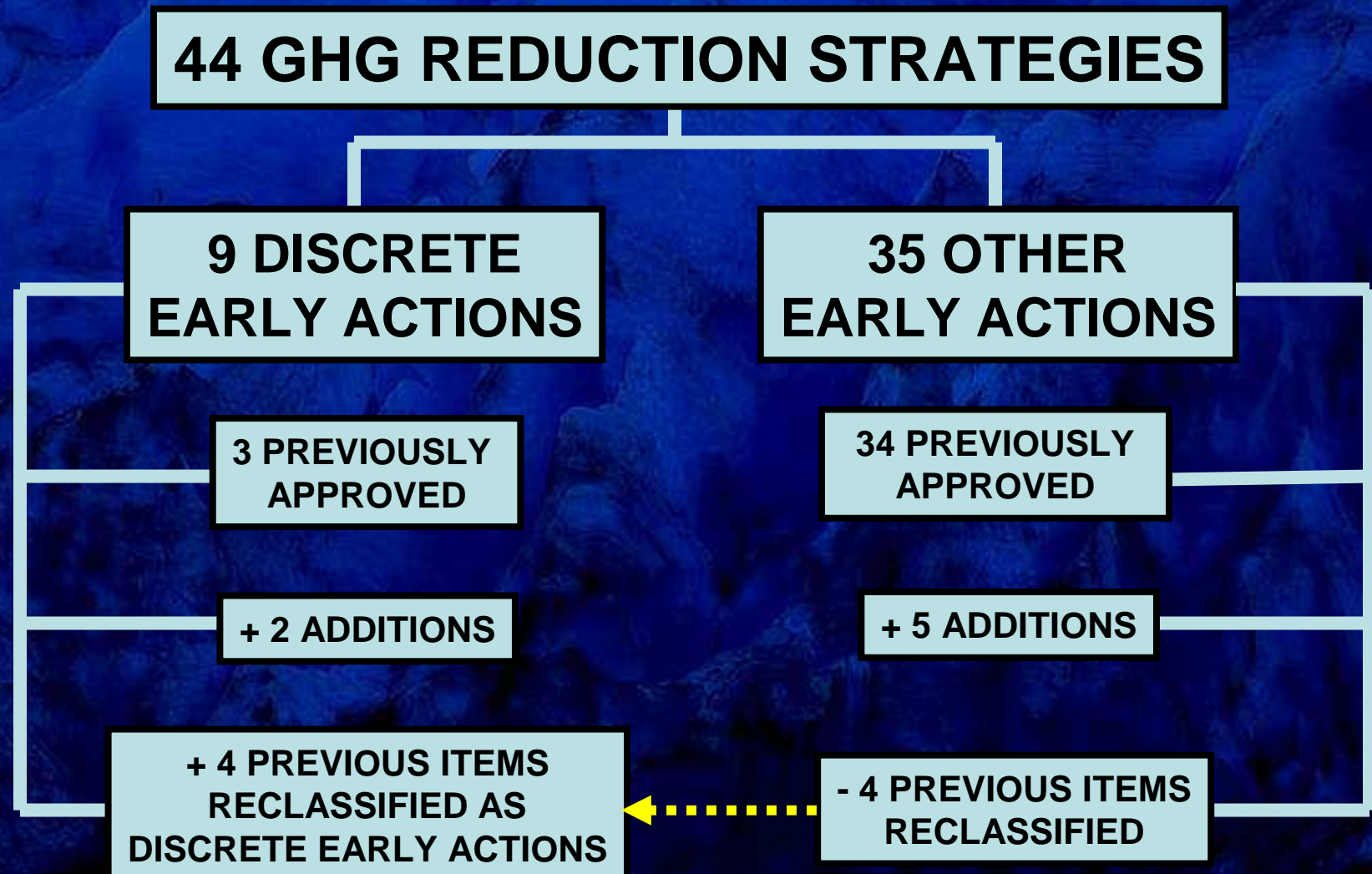
Further Evaluation of Early Action Suggestions

- **34 suggestions from the EJAC**
 - 21 measures identified in initial ARB staff report
 - 13 new suggestions
- **6 suggestions from the CAPCOA**
- **7 suggestions from the SCAQMD**
- **3 suggestions from environmental coalition**
- **17 internal suggestions and/or previously approved early actions**

Review Process

- **Staff recommendation for identification of early actions based on analysis of:**
 - **potential emissions reductions**
 - **cost information**
 - **likely technical feasibility**
 - **additional considerations**
- **Evaluations were generated by staff for all suggestions**
 - **More comprehensive analyses still required for many strategies**

Breakdown of Early Action Recommendations



Recommendations Synopsis

- **44 total GHG reduction strategies**
 - **9 discrete early actions**
 - Triple the number of previous list
 - Total emission reduction potential ~16 MMTCO₂E by 2020
 - **35 other early actions**
 - At least ~26 MMTCO₂E reductions by 2020
 - **Documented in Tables 1 and 2 of staff report**

June 2007 Board Approved Discrete Early Actions

- **Low Carbon Fuel Standard**
 - Reduction potential ~ 10-20 MMTCO₂E reductions by 2020
- **Restrictions on High GWP Refrigerants**
 - Reduction potential ~1-2 MMTCO₂E reductions by 2020
- **Improved Landfill Methane Capture**
 - Reduction potential ~2-4 MMTCO₂E in 2020

New Discrete Early Action Recommendations

- **2 New Discrete Early Actions**
 - High GWP GHGs used in some consumer products
 - SF₆ in non-electric sector
- **4 Items Reclassified as Discrete Early Actions**
 - Green Ports, PFCs in semiconductors, SmartWay truck efficiency, and tire inflation

New Discrete Early Action: High GWP Consumer Products



- Establish standards to reduce emissions from tire inflators, electronics cleaning and dust removal products or other aerosol products
- 0.3 MMTCO₂E in 2020

New Discrete Early Action: SF_6 in the Non-Electric Sector

- Ban the use of Sulfur Hexafluoride from non-essential applications if viable alternatives are available
- TBD MMTCO_2E in 2020



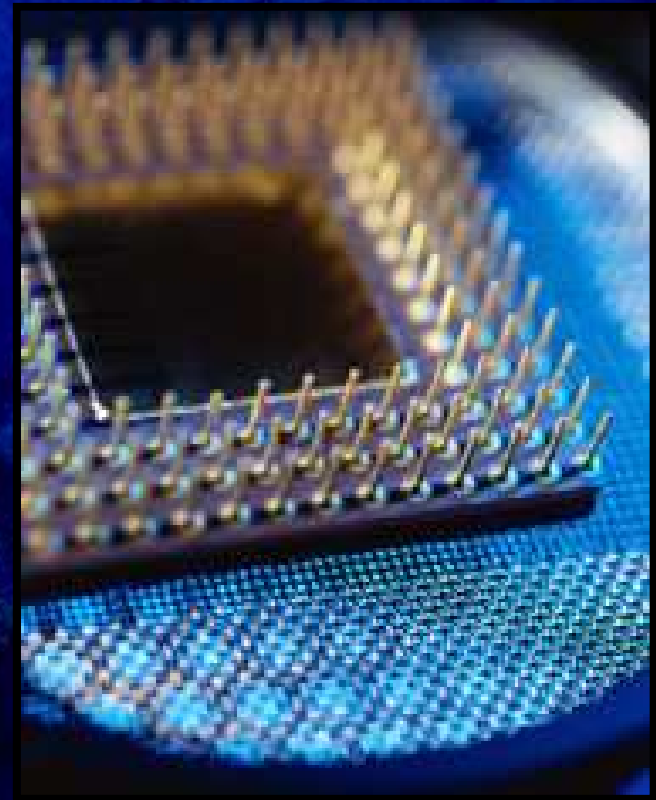
Reclassified to Discrete Early Action: Green Ports

- Require docked ships to shut off their auxiliary engines by plugging into shoreside electric power or other technologies
- 0.5 MMTCO₂E in 2020



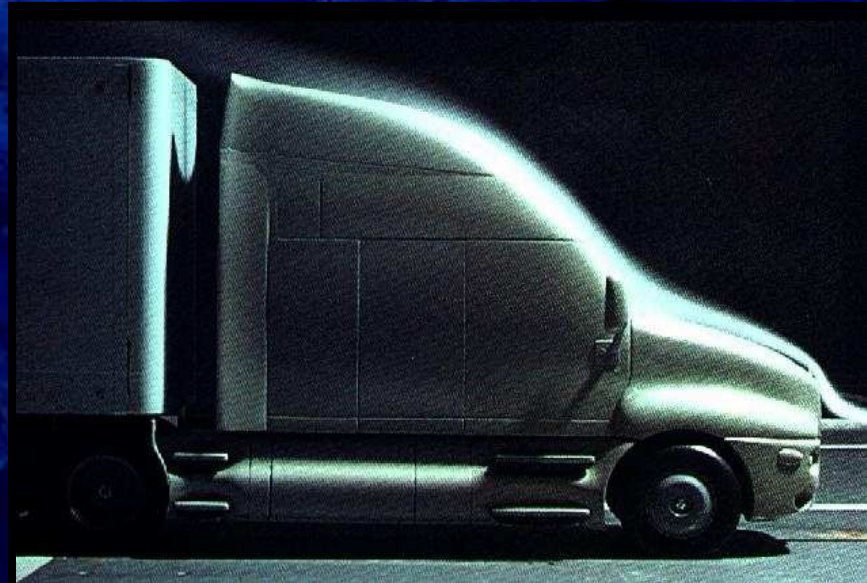
Reclassified to Discrete Early Action: PFCs in Semiconductor Industry

- Establish standards to reduce emissions of perfluorocarbons in the semiconductor industry
- 0.5 MMTCO₂E in 2020



Reclassified to Discrete Early Action: SmartWay Truck Efficiency

- Require existing trucks and trailers to be retrofitted with devices that reduce aerodynamic drag and rolling resistance
- 1.3 MMTCO₂E in 2020



Reclassified to Discrete Early Action: Tire Inflation Program



- Require proper tire inflation as part of overall service coupled with outreach program
- 0.2 MMTCO₂E in 2020

Other Early Actions

- **35 other early actions**
 - **Includes regulatory and non-regulatory measures such as:**
 - **Forestry Protocol**
 - **Local government guidance and protocols**
 - **Cool automobile paints**
 - **Foam recovery and destruction program**
 - **5 additional early actions to previous list**
 - **To be brought before the Board during 2007-2012**
- **~26 MMTCO₂E reductions by 2020**

Early Action Implementation

All 44 GHG reduction strategies are commitments that will be developed and implemented individually via the conventional open and transparent public process for all ARB measures.

Early Action Board Hearings in 2007

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
Forestry Protocol				✦
Diesel – Port Trucks				✦
Green Ports ¹				✦
Diesel – Commercial Harbor Craft				✦

¹ NEW DISCRETE EARLY ACTIONS

Early Action Board Hearings in 2008

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
Diesel – Vessel Main Engine Fuel Specifications	✦			
Manure Management			✦	
Local Government Protocols			✦	
Business Protocols			✦	
Cool Communities Program			✦	
GHGs in Consumer Products ¹				✦
PFCs in Semiconductor Industry ¹				✦
SmartWay Truck Efficiency ¹				✦
Low Carbon Fuel Standard				✦

¹ NEW DISCRETE EARLY ACTIONS

Early Action Board Hearings in 2008

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
MVAC HFCs from DIY servicing				✦
Improved Landfill Gas Capture				✦
Gasoline Dispenser Hose Replacement				✦
Portable Outboard Marine Tanks				✦
Off-cycle Driving Condition Standards				✦
Diesel – Private Onroad Trucks				✦
Anti-Idling Enforcement ²				✦

² NEW EARLY ACTION

Early Action Board Hearings in 2009

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
SF ₆ in the Non-Electric Sector ¹	★			
Tire Inflation Program ¹	★			
Cool Automobile Paints		★		
Blended Cements ²		★		
HFC Release from MVAC Service / Dismantling				★
Diesel – Offroad Equipment (agricultural)				★

¹ NEW DISCRETE EARLY ACTIONS

² NEW EARLY ACTION

Early Action Board Hearings in 2010

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
AC Leak Tightness to Smog Check	✦			
Energy Efficiency of CA Cement Facilities ²				✦
Nitrogen Land Application Research ²				✦
Specifications for Commercial Refrigeration				✦
Reduction of Oil and Gas Leaks				✦
Low GWP Gases for MVACs				✦

² NEW EARLY ACTIONS

Early Action Board Hearings in 2011

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
Diesel Vehicle Hybridization	✦			
Reduction of SF ₆ in Electricity Generation		✦		
High GWP Refrigerant Tracking, Reporting, and Destruction Program ²				✦
Foam Recovery / Destruction Program				✦
Alternative Suppressants in Fire Protection Systems				✦

² NEW EARLY ACTION

Early Action Board Hearings in 2012

EARLY ACTION MEASURE	Q1	Q2	Q3	Q4
Pavley MV Regs, next phase				★

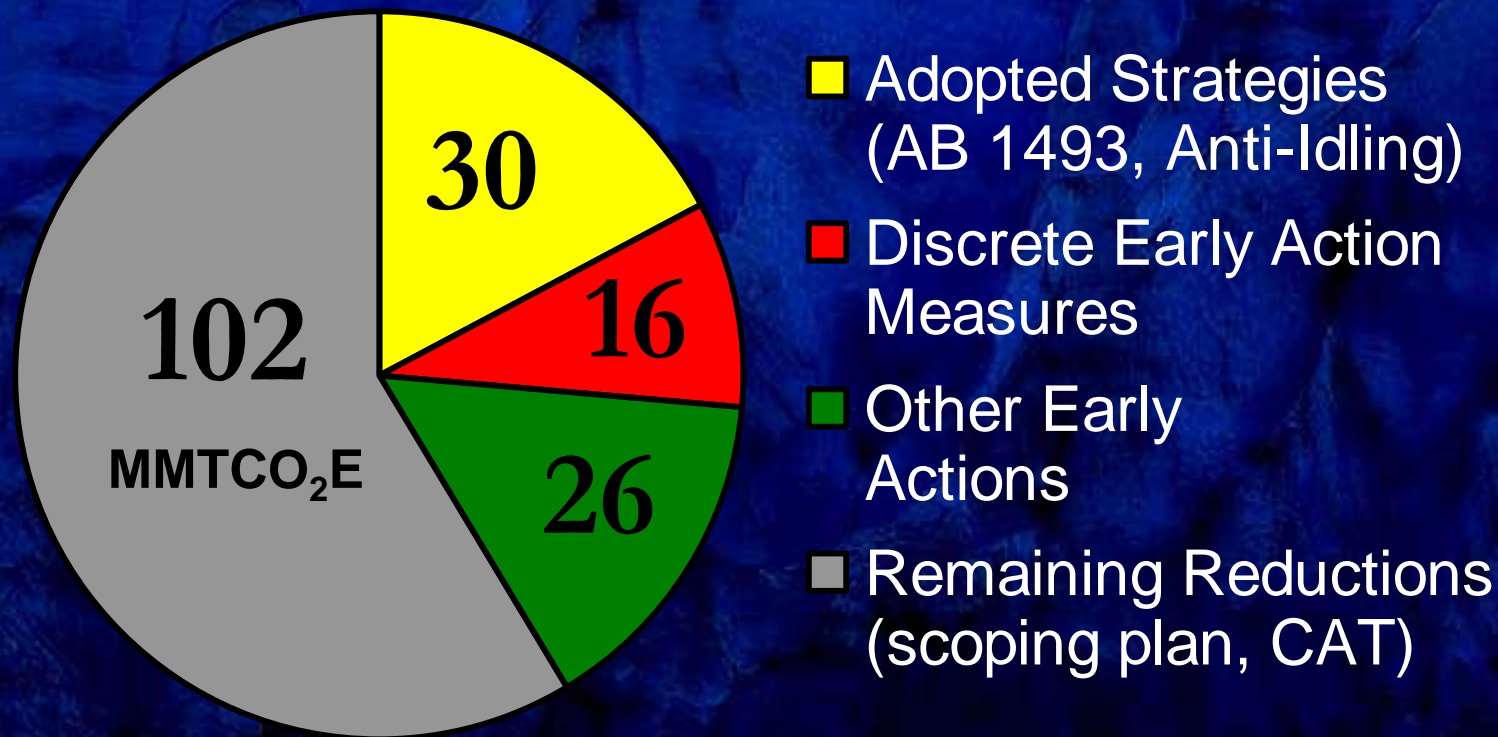
Hearing date for four strategies TBD

**One recommendation addressed by
recently adopted regulation**

ARB 2020 Emission Reductions

A Significant Fraction of the 2020 Target

(AT LEAST 72 of 174* MMTCO₂E)



* Current estimate – process underway to establish revised target.

Stakeholder Feedback

- Stakeholder comment period followed the release of September staff report
 - ~ 70 comments received and reviewed
 - Discussed in body of revised report and integrated into measure evaluations (appendices)
 - Comments fall into four groups

Comment Group 1

➤ Early Actions in Staff Report

- Comments on heavy-duty diesel truck measures
- Comments on a wide array of other early actions
- Strategy evaluations modified on a case-by-base basis
- Groups that submitted comments were identified in the applicable strategy evaluations

Comment Group 2

➤ **New strategies for evaluation**

- Policy (e.g., line item veto for State budget)
- Economics (e.g., carbon permit fees, fuel taxes)
- Transportation (e.g., Smog Checks, light-rail extension)
- Others such as combined heat and power

➤ **Will be further evaluated during scoping plan development**

Comment Group 3

➤ **Several other comments pertained to measures / sectors that are currently being evaluated as part of the scoping plan analysis**

- electricity generation
- water resources
- renewable energy
- carbon capture and sequestration
- land use planning
- marine vessels
- aircraft
- product-packing take-back programs

Comment Group 4

- **Recognition of voluntary emission reduction actions**
 - **ARB agrees that the leadership shown in GHG emission reductions by many businesses and local governments needs to be acknowledged and supported**
 - **A presentation on this issue will follow by ARB's Office of Climate Change**

Next Steps

- **Develop regulatory and non-regulatory proposals for Board consideration**
 - Continued research (technical, economic, etc.)
 - Workshops on individual rulemakings
 - Stakeholder workgroups
 - Staff report / regulatory language development
- **Status reports to Board every 6 months**



**THE EXIT GLACIER IS ONE OF THOUSANDS
OF GLACIERS IN RECESSION THROUGHOUT THE WORLD**

**EARLY ACTION IMPLEMENTATION WOULD
EQUATE TO APPROXIMATELY 9 MILLION
PASSENGER CARS TAKEN OFF OF
THE ROAD EACH YEAR**

**MANY OF THESE ACTIONS COULD BE
COPIED BY OTHER STATES AND
JURISDICTIONS AND COULD HAVE A
MULTIPLYING EFFECT**